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ELECTRONIC SPIN LATTICE RELAXATION IN OLIGOARYLENES IN THE NAPHTHALENE–BENZENE COPOLYMER*

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Spin-lattice relaxation of paramagnetic centres in the naphthalene–benzene copolymer and in the products of its pyrolysis has been investigated in some detail at various temperatures. It appears from the experimental results that two-step Orbach–Aminov type relaxation processes take place in the pyrolyzed samples, and may be accounted for satisfactorily through the relaxation model in terms of exchange-bound clusters. The results of the relaxation measurements are compared with the data obtained by infrared, and by elemental analysis and X-ray studies.

INTEREST shown by authors in polymers containing conjugated bonds is attributable to a number of specific properties possessed by these materials. These include electrical conductivity, paramagnetism, good thermal stability and other properties favouring practical applications of these polymers.

In recent years the attention of investigators has centred on a novel group of polyconjugated systems, viz. polymers and copolymers based on the simplest aromatic compounds such as benzene, naphthalene and anthracene [1–4].

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